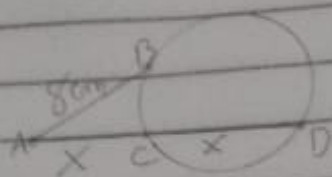


# Potência do ponto

①



$$AB^2 = AC \cdot AD$$

$$AB = 8$$

$$8^2 = x(x+x)$$

$$64 = 2x^2$$

$$x^2 = \frac{64}{2}$$

$$x^2 = 32$$

$$x = \sqrt{32}$$

$$x = 4\sqrt{2}$$

$$\begin{array}{r} 32 : 2 \\ 16 \end{array}$$

$$\begin{array}{r} 16 : 2 \\ 8 \end{array}$$

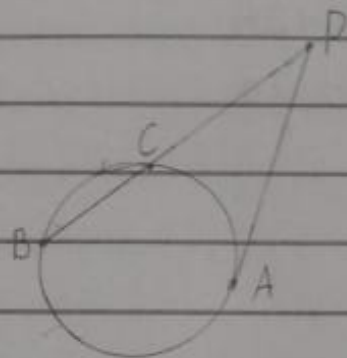
$$\begin{array}{r} 8 : 2 \\ 4 \end{array}$$

$$\begin{array}{r} 4 : 2 \\ 2 \end{array}$$

$$\begin{array}{r} 2 : 2 \\ 1 \end{array}$$

**E**

②



$$PA = 3PC$$

$$\frac{PB}{PA} = \frac{PA}{PC} \rightarrow PA^2 = PB \cdot PC$$

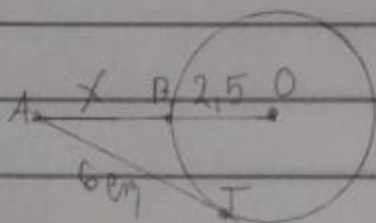
$$(3PC)^2 = PB \cdot PC$$

$$9PC^2 = PB \cdot PC$$

$$4PC = PB$$

**B**

③



$$6^2 = x \cdot (5 + x)$$

$$x^2 + 5x - 36 = 0$$

$$\frac{-5 \pm \sqrt{25 + 144}}{2}$$

$$\frac{-5 \pm \sqrt{169}}{2}$$

$$\frac{-5 \pm 13}{2} = x$$

$$x_1 = \frac{-5 + 13}{2} = 4$$

$$x_{II} = \frac{-5 - 13}{2} = -9$$

**4**  
**E**

$$\textcircled{4} \quad AE \cdot ED = CE \cdot ED$$

$$CE = ED$$

$$3 = CE^2$$

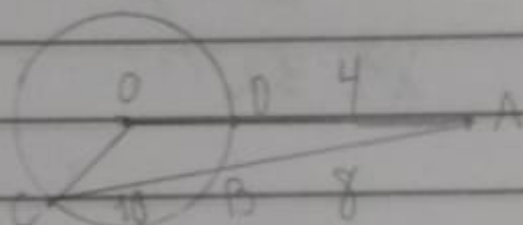
B

$$CE = \sqrt{3}$$

$$CD = 2CE \Rightarrow CD = 2\sqrt{3}$$

5

E



$$AE \cdot AD = AC \cdot AB$$

$$(4 + 2R) \cdot 4 = 18 \cdot 8$$

$$16 + 8R = 144$$

$$8R = 144 - 16$$

$$8R = 128$$

$$\nabla R = \frac{128}{8}$$

$$R = 16$$

$$P = AC + CO + OA$$

$$P = 18 + 16 + 20$$

$$P = 54$$